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69.027

Outbreak of Halophilic Vibrio Infections Associated with a Major Environmental Disaster

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Background: In the United States, isolated pathogenic vibrios have a marked seasonal peak. More than 90% of cases occur between April and October, presumably reflecting seasonal changes in shellfish consumption, recreational water use and documented increase in the densities of vibros in Gulf coast water during warmer months.

Method: We report an unusual cluster of noncholeragenic Vibrio infections reported to the Mississippi State Department of Health, Jackson, Mississippi, United States of America (USA) in the immediate aftermath of Hurricane Katrina.

Results: A total of 12 patients were admitted to Gulf area hospitals from August 29th through September 1st 2005. The median age of patients was 76 years (range = 60—83 years), sex distribution consisting of 9 males and 3 females. Blood and/or wound cultures revealed 8 cases of *V. vulnificus*, 2 cases of *V. parahemolyticus*, one case of *V. fluvialis*, and one case of Vibrio species. Nine patients had visible skin wounds that probably served as the portal of entry for the Vibrio bacteria present in flood waters. Chronic medical conditions that could increase susceptibility to Vibrio infection were present in 75% of patients (namely: diabetes [$n = 3$], heart disease [$n = 7$], renal insufficiency [$n = 2$], human immunodeficiency virus (HIV) [$n = 1$] and alcohol abuse [$n = 4$]). Majority of patients had sepsis and required intensive care, including respiratory support ($n = 5$). All patients were covered with appropriate antibiotics (cephalosprins, doxycyline, Vancomycin, aminoglycosides, and fluoroquinolones). Four patients died on admission, one patient was transferred to another facility, and three persons recovered and were discharged home. The disposition of the remaining 4 patients remains unknown.

Conclusion: Health care providers should be aware of the possibility of Vibrio wound infections in high-risk persons in natural disaster settings and the importance of early diagnosis and treatment in such patients.

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A Serological Follow-Up Study of Acute Q Fever Infection

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Background: After acute Q fever infection, patients with certain predisposing factors are at risk to develop chronic Q fever. However, there are few reports describing the results of routine serological follow-up for patients infected with acute Q fever.

Methods: A prospective serological follow-up study was conducted from August to November 2007. Persons with onset of acute Q fever more than 6 months before the date of follow-up blood sampling were eligible. The indirect immunofluorescence assay was used for serological diagnosis. PCR testing was performed only on samples suggestive of chronic Q fever with anti-phase I IgG titer $\geq$1:800.

Results: Of 92 (male: 85, female: 7) eligible persons enrolled with the interval between onset of acute Q fever and follow-up blood sampling ranging from 169 days to 1,253 days (medium: 607 days), 17 subjects (18%) were found to have serological evidence of chronic Q fever (titers of anti-phase I IgG: 1:1280~1:5120, medium: 1:1280). All these subjects were asymptomatic and had negative PCR results. History taking revealed no pregnancy, immunocompromised status or valvular defects on these subjects when acute Q fever occurred. Medical consultation suggested only continued serological and clinical follow-up for these subjects.

Conclusion: Approximately 18% subjects were found to have serological profiles indicative of chronic Q fever after acute infection. It suggested that routine serological follow-up might need to be practiced on patients after acute Q fever infection whether history taking revealed relevant risk factors.

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Epidemiology, Invasiveness and Comparative Proteomic Analysis of Group B Streptococcus (GBS) of Indian Origin

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GBS causes life threatening diseases like pneumonia, meningitis, sepsis in newborn babies. Although, lot of information is available in developed countries but there is very limited knowledge about the prevalent serotype and pathogenesis of GBS in India. Serotyping is important for our understanding of the epidemiology of GBS disease and in

determining the prognosis of the disease in infants. Maternal colonization at delivery is the most important prognostic factor for vertical transmission to neonates. The present study was done to compare GBS colonization between an urban and a rural society in National Capital Region of New Delhi and also to find out the capsular polysaccharide type distribution in the two communities. Therefore samples were routinely collected from the pregnant women's from July 2004 to July 2007. From each woman samples were taken from hypo-vaginal as well as rectum areas. We have collected total 200 samples (100 each from rural as well as urban areas). An analysis was also conducted to collect data on socio-economic, demographic, history of current pregnancy and obstetric history. In the rural areas more women were found colonized by GBS (30%) as compared to the urban areas (20%). Serotype, Ia (25%), III (18%) and II (15%) were the dominating serotypes seen in the two areas. GBS type Ia was found the predominant type in both areas. To check the invasiveness of the Indian predominant serotype (Ia), the adherence to and invasion of the human lung epithelial cell line A549 by GBS serotype Ia (India) were compared with those of serotype III (USA) strains by a conventional method. The maximum invasive efficiency was found to be 2% in case of type Ia as compared to 1.8% in case of type III. Additionally, comparative proteomics analysis using MALDI-TOF was also performed between Indian (type Ia) and USA (type III) strains for differential expression in protein profile of the two predominant serotypes. These findings will be presented.

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69.030

Comparison Between Official Figures and Exact Incidence Rate of Human Brucellosis in Qom Province of Iran

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Background: Brucellosis remains an important zoonotic disease which persists in all provinces of Iran. Since in Iran both direct and indirect transmission is the potential sources of human brucellosis, epidemiological studies have revealed that true numbers of cases has huge difference with official figures that reports by health systems.

Methods: The study area located in central of Iran with a population about 1046737 in 2006. All patients with clinical signs (examined by physicians) and confirmed in laboratory tests during October 2005 to September 2006 recruited in the study. Official numbers of human brucellosis in this province was provided from ministry of health and medical education.

Results: In the period of investigation we found a total of 2061 confirmed case (51/45 male and 48/6% female). Geometric mean for Wright, 2ME and Coombs wright was 1: 339/8, 1:212/6 and 1:348/5 respectively. Incidence rate in this period is 196/9 (per 100000 person), on the other hand according to official reports we had 140 cases in this period (I.R. = 13/4per 100000 person). Maximum number of cases were in May, June and July.

Conclusion: Although human brucellosis is a notifiable disease in many countries, official figures do not fully reflect the number of people infected. Surveillance program base on medical laboratory diagnosis can be a potential good program for field evaluation and control of disease.

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69.031

Escherichia coli Isolates from Cases of Japanese Travelers with Reported Diarrhea

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Eschetichia coli was widely known as major course of travellers' diarrhea. However, it was not targeted disease of investigation under Quarantine Law in Japan since the pathogen is normal flora of human. The prevalence of this pathogen among Japanese travellers reported diarrhea has not looked into until today. Samples obtained from returned passengers arrived in Centrea Airport in Nagoya, Japan was examined for *E. coli* isolation. Over 600 samples screened and sampled. Around 150 were isolated as pilot study to look into the prevalence of different groups of pathogenic *E. coli*. PCR and traditional biochemical analysis revieled representation of every group but with significant numbers of EAggEC. The result supported previous studies from other countries and also revealed that EAggEC diarrhea seems to share significant portion among the cases. We are currently looking into the origin of strains where cases are travelled immediately prior to isolation and symptoms.

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New Approaches to Bacterial and Fungal Diagnostics (Poster Presentation)

70.001

Differentiation Bacterial from Viral Infection-Advantage of Procalcitonin

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Background: Procalcitonin is prohormone of calcitonin containing 116 amino acids. It is also a useful indicator of severity of bacterial infections. Methods and Materials: We compare other studies and articles about procalcitonin